Remarks

Claim Rejections 35 USC § 103

The Examiner rejects claims 1 through 6 as being unpatentable over Elahmadi in view of "Type and characteristics of SDH network protection architectures ITU-T, G.841 (10/98)". The Examiner also rejects claims 7 and 8 in view of the same documents and further in view of Shanklin. This is respectfully rejected for the following reasons.

Neither Elahmadi nor the ITU-T document describe a link aggregation router as specified in independent claims 1 and 3 nor use of link aggregation as specified in independent method claim 4. The Examiner states that elements 78, 80 of Figure 4 of Elahmadi are a link aggregation router. However this is not the case. Element 78 is a cross connect switch fabric (see column 4 lines 40-41) and element 80 is a data switch (see column 4 line 41). Thus even if the skilled person were to have combined Elahmadi and the ITU-T document he would not have been able to reach the present invention as claimed.

As explained in the specification on page 4 line 27 to page 5 line 21 link aggregation involves grouping physical link segments and treating them as if they were part of a single, logical link segment. Parallel physical links are used simultaneously to increase bandwidth. Because the links are treated as if they are part of a single link, data from a single source is shared over the links without duplication between the links. The independent claims have been amended to specify that link aggregated traffic is carried simultaneously on the shared and protection paths without duplication.

The ITU-T document in section 6.1 discusses shared protection rings. As correctly noted by the Examiner, in failure-free operation, the protection channels may carry extra traffic. This extra traffic is as opposed to normal traffic which is carried on the

working channels, during failure free mode. As stated at page 20 lines 29-31 of that document "In the event of a protection switch, the normal traffic on the working channels will access the protection channels causing any extra traffic to be removed from the protection channels." For example this type of scheme is typically used to carry high priority customer traffic on the working channels and low priority internet traffic on the protection channels. In failure-mode some or all of the low priority traffic is lost whilst the high priority customer traffic is carried on the protection channels. In contrast, link aggregation schemes do not separate the traffic into working and protection types. All the traffic is shared between the working and protection paths in failure-free mode. Thus in failure-mode packets are dropped and any decision as to which packets are dropped is made in the routers. There is no need to pre-sort traffic into protected and unprotected classes. Thus the ITU-T document does not teach link aggregation or sending link-aggregated traffic on both the working and protection paths simultaneously without duplication in failure-free mode. The ITU-T document teaches separating the traffic into "normal" traffic and "extra" traffic and this is not link-aggregated traffic as claimed. Therefore it would not have been possible for the skilled person to reach the invention as claimed from Elahmadi and the ITU-T document.

As explained on page 5 lines 19-21 the present invention relates to using a link aggregation router as part of a shared optical protection scheme together with the unexpected benefits that utilizing such a technology in such a protection scheme brings. These benefits and advantages are described on pages 6 to 7 of the specification. It is respectfully submitted that none of the cited documents teaches link aggregation in the context of a shared protection scheme.

The applicant realizes that this response is being filed following a final rejection. It is submitted that this response ought to be entered and fully considered, since not only have no new issues been raised, but rather issues have been reduced since the applicant has responded to each of the concerns of the Examiner and, it is believed,

satisfied them. In addition, this response ought to be entered because the prior art was cited against the claims of the application for the first time in the Examiner's Office Action of June 14, 2004, and this is therefore the first opportunity of the applicant to respond to the prior art and explain the patentable differences of the invention which distinguish the invention from the prior art.

Further action of the Examiner is awaited.

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Respectfully submitted,

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